

EX. 547
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REPORT ON THE TRANS-ALASKA PIPELINE
AS IT RELATES TO PLANNING FOR REGULATION OF
CONSTRUCTION OF A MACKENZIE VALLEY GAS PIPELINE

MACKENZIE VALLEY PIPELINE HIGHWAY
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MEMORANDUM TO MEMBERS OF
THE GENERAL COMMITTEE,
ADVISORY COMMITTEE ON NORTHERN DEVELOPMENT.

Surveillance and Monitoring -
Proposed Mackenzie Valley Pipeline

You will recall that at the 25th meeting of the General Committee on April 11, 1975, Mr. A.B. Yates summarized his observations made during a visit in mid-March to Alaska, relating to the American regulatory approach governing the construction of the trans-Alaska (Alyeska) pipeline. Following these comments, Mr. A.D. Hunt outlined certain alternative approaches to monitoring and surveillance of the proposed Mackenzie Valley Pipeline.

You will find attached, a copy of a more detailed report on the Alyeska visit. The report also discusses the need for advance planning of regulation of construction of a northern pipeline and notes that an officer in DIAND is now engaged specifically in such planning.

Mr. D.J. Gee, Northern Policy and Program Planning Branch, Department of Indian Affairs and Northern Development, has been assigned the planning responsibility referred to above. He may be contacted at 996-5506.

H.B. Taylor

H.B. Taylor,
Secretary,
General Committee.

Att.

Department of Indian Affairs
and Northern Development

May 30, 1975.

INTRODUCTION

The government of Canada is reviewing applications by Canadian Arctic Gas Pipeline Limited and Poothills Pipe Lines Limited for the necessary approvals to construct a gas pipeline south through the Mackenzie Valley to interconnect with existing gas pipeline facilities in Alberta. Although the dominant government approvals would emanate initially from the National Energy Board (Certificate of Public Convenience and Necessity) and the Department of Indian and Northern Affairs (grant of right-of-way), there would be a myriad of later, more detailed, regulatory licences, permits and approvals required under legislation administered by a variety of government agencies - federal, provincial and territorial. In implementing the range of controls required by law during the construction phase of the project, it is essential that all government agencies involved function in a co-ordinated and effective manner.

Individual government agencies have set up administrative machinery in their particular area of responsibility that cater to a normal, predictable, work load. However, the magnitude and complexity of a Mackenzie Valley Pipeline requires that preplanning occur with respect to the surveillance system required to ensure government is geared up to take on the tremendous work load surge that would be occasioned by a Mackenzie Valley Gas Pipeline.

Government regulatory control of pipeline construction can be viewed as having two functional parts. Surveillance can be defined as the verification and enforcement of proper design and construction techniques, including detailed design approval, stipulation of particular constraints concerning environment, engineering or social impact, and field inspection to guarantee compliance. Monitoring can be defined as scientifically designed observation and measurement of the effects of pipeline construction, requiring a knowledge of pre-construction conditions, with a view to feedback of results into the regulatory mechanism.

During the week of March 11, 1975, a DINA/NEB group visited Alaska to look into the surveillance and monitoring arrangements in place with respect to the Trans Alaska oil pipeline currently under construction. The group was led by A.B. Yates, Director, Northern Policy and Program Planning Branch (DINA).

PURPOSE OF PAPER

This paper is intended to report on the visiting group's observations and to outline planning action under way in DINA for surveillance and monitoring of construction of a Mackenzie Valley Pipeline.

THE SITUATION IN ALASKA

Routing

The 798 mile line is being constructed by the Alyeska Pipeline Service Company from Prudhoe Bay (mile 1) south across the state to a sea terminal at Valdez. It crosses 3 mountain ranges and more than 600 streams, including the Yukon River, at Mile 350. The line traverses 250 miles of state owned lands, 500 miles of federal lands and 50 miles of private land. Alyeska constructed an all weather road from the Yukon River to Prudhoe Bay in 1974, thus providing a supply roadway parallel and adjacent to the pipeline for its entire length.

Construction

Alyeska pipeline construction work commenced in January 1975, with the first pipe planned to be laid in April. The pipeline is being constructed in three modes. In stable soils, (approximately 409 miles of route) it will be buried in a conventional manner. In conditions of difficult soil stability due to permafrost (approximately 382 miles of route) the above ground mode will be used involving support platforms 50 to 70 feet apart with approximately ten feet of clearance. In addition, short sections (totalling 7 miles of route) will be buried and frozen into the ground using refrigerant lines. This special burial mode will facilitate wildlife crossings.

The state, under joint financing with Alyeska, is constructing a 2,300 foot permanent bridge across the Yukon River from which the oil pipeline will be suspended.

It is planned to lay 500 miles of pipe during 1975. By mid 1977, the pipeline will go on stream with eight pumping stations installed to enable a throughput of 600,000 barrels per day. On completion of four additional pumping stations by the end of 1977 throughput will rise to 1.2 million barrels per day. The ultimate capacity of the line is two million barrels per day.

For the entire length of the pipeline a work pad immediately adjacent thereto is being constructed of granular materials in depths up to several feet requiring an average of 50,000 cubic yards of granular material per mile. Major construction work will occur during summer months and the peak effort will

take place during the summer of 1975, when 15,000 men will be on the job. It is the Alyeska Pipeline Service Company's objective to fill 5-10% of the work force with local native people.

The pipeline's southern terminal at Valdez will occupy 1000 acres of land. When the line goes on stream four 150,000 ton tankers may be loaded simultaneously from 12 storage tanks, each 250 feet in diameter. At the throughput rate of 1.2 million barrels per day, these tanks will provide 7 days storage.

Agreements

On January 23, 1974, the U.S. Federal Government entered into an agreement¹ with the seven owner companies for the granting of 30 years right-of-way for the pipeline and its related facilities. The agreement provided for a Federal Authorized Officer to be responsible for its implementation, and set out specific stipulations attached to the agreement dealing with environmental protection, technical design and general administrative and housekeeping matters. On May 3, 1974, the State of Alaska similarly entered into agreement² with the 7 owner companies, providing for a State Pipeline Co-ordinator (counterpart to the Federal Authorized Officer) and containing virtually identical stipulations. Both governments had previously (January 8, 1974) formally agreed³ to co-operate in discharging their respective responsibilities.

¹Agreement and Grant of Right-of-Way, for Trans-Alaska Pipeline between the United States of America and

Amerada Hess Corp	(3.00%)
Arco Pipe Line Company	(28.08%)
Exxon Pipeline Company	(25.52%)
Mobil Alaska Pipeline Company	(8.32%)
Phillips Petroleum Company	(3.32%)
Solo Pipe Line Company	(28.08%)
Union Alaska Pipeline Company	(3.32%)

²Right-of-Way Lease for the Trans-Alaska Pipeline between the State of Alaska and (the 7 owner companies).

³Co-operative Agreement between the United States Department of the Interior and State of Alaska regarding the proposed Trans-Alaska Pipeline.



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The federal and state agreements require that each segment of construction, including pipeline, access roads, airfields, camps, communication sites, etc., may only commence on receipt of a written Notice To Proceed (NTP), signed by the Authorized Officer, which specifies the terms and conditions under which the activity is allowed to take place. For operations on state land, both the State Pipeline Co-ordinator and Federal Authorized Officer sign the NTP. An NTP is issued on approval of design submission for the construction activity under application. The NTP procedure does not replace existing licensing responsibilities of other government agencies, but does provide the focal point for their co-ordination.

The agreements both contain the unique provision that the owner companies must reimburse the governments for all costs associated with processing applications and monitoring "construction, operation, maintenance and termination of all or any part of the pipeline system".

Alyeska Pipeline Service Company

The company was created by the owner companies to design, build and operate the Trans-Alaska Pipeline. Its Project Management Division is located in Anchorage. Alyeska has engaged the Bechtel Corporation to manage engineering of the pipeline and the Fluor Corporation for the Valdez terminal and all pumping stations. The pipeline route has been segmented into 5 sections each of 130 miles length (except for the most northerly section, which is 260 miles long). Bechtel has, in turn, engaged a pipeline contractor responsible for construction in each section. There are two levels of quality control (excluding government); in addition to supervision by Bechtel of its section sub-contractors, Alyeska has its own field inspection organization.

Federal Government Organization

The Federal Department of the Interior has set up the Alaska Pipeline Office (APO) in Anchorage under the direction of the Authorized Officer. The APO reviews design submissions leading to issuance of NTP's, administers matters of real estate on federal and private lands, inspects activities on-site for compliance with NTP requirements, co-ordinates with state and other federal authorities and, generally, implements the Right-of-Way Agreement and Federal/State Agreement. The APO is responsible for pipeline integrity throughout the route, but acts for environmental concerns with respect to federal lands only.

The APO employs a range of technical experts drawn from various parts of government and contracted from the private sector. The firm of Mechanics Research Incorporated (MRI) was engaged as a third party contractor to provide technical services in pipeline installation and environmental sciences, to complement the civil servants. MRI also undertakes the bulk of the administrative and financial management of the APO. The federal organization is comprised of 50 civil servants and 60 technical experts from MRI. An Area Engineer is deployed in each construction section, and is responsible to the Authorized Officer for regulating activities in the section. The current organization chart is attached, as Annex A.

State Government Organization

The State Pipeline Co-ordinator's office is similarly established, but operates with a smaller staff of 35. Experts are contracted short term and only for specific problems. Field Surveillance Officers are assigned to each construction section. The State Office is active in regulating all stream crossings, whether on state or federal lands, because the state has rights to all stream beds under the Alaska Statehood Act.

Up to December 31, 1974, the state organization had already handled 264 NTP applications. The State Office is anticipating a budget of over \$2 million in the (peak) fiscal year 1976. The current organization chart is attached as Annex B.

Joint State and Federal Fish and Wildlife Team

A team of 32 state and federal specialists has been organized to serve both the Federal APO and the State Pipeline Co-ordinator's Office. The team reviews NTP applications, provides environmental terms and conditions and monitors activities in the field (working through the local federal or state inspectors). The team has been allocated authority from the State Department of Fish and Game to administer applicable legislation. A limited amount of research is on-going to observe the movements of big game in the region of pipeline construction activity.

General

Although the focal points for regulating pipeline construction are the organizations described above, there remains numerous state and federal agencies with permitting authority separate from the NTP arrangement. No less than eight state agencies and four federal are active, creating a major problem of co-ordination.

State field inspectors are employed on the basis of 14 days on the line and 6 "in town". Federal inspectors work a 10 day "out" and 4 day "in" rotation.

The Prudhoe Bay Fields are under state jurisdiction, and developments there are handled by the State Department of Resources. It is anticipated that \$1 billion of development will occur, including 54 producing wells.

CONCLUSIONS

Trans-Alaska Pipeline

1. The jurisdictional set-up in Alaska is complex in the extreme, as the pipeline project is superimposed on a transitional period from federal to state control of a portion of the state land and in the federal the Alaska Native Claims Settlement Act.
2. Strong state and federal organizations have been set up to co-operatively administer agreements with the owner companies. However, the government system tends to duplication of effort and over-inspection. It works in spite of itself because of the co-operative attitude of government, industry and native people, in an atmosphere of total support of the pipeline project. This support stems from the financial benefits that will accrue to all parties when oil begins to flow.
3. Government is employing close to 200 people in Alaska under the Federal Authorized Officer and the State Pipeline Co-ordinator, to implement the three agreements. This staff is drawn from a diversity of sources within government, universities and the private sector. The object has been to pull together the most competent team possible for the duration of the pipeline project.
4. The Notice to Proceed (NTP) procedure guarantees tight control over all aspects of pipeline and auxiliary construction.
5. There appears to be "over kill" in field inspections, due to duplicate field organizations on the industry side as well as government.
6. The co-location of Alyeska and government managers in Anchorage, with full authority for the project, ensures good communication at the site of the action, and is a key factor in enabling the complicated regulatory system to work.

7. The stipulations embodied in both the federal and state agreements with industry have inhibited flexibility and made it considerably more difficult for the government regulatory system to work effectively.
8. There is little continuous monitoring by government agencies, in the scientific sense defined earlier in this paper. Monitoring as defined is not covered specifically in the agreements.

Mackenzie Valley Pipeline

1. The desirability of a single, central Authority to co-ordinate government regulatory responsibilities during construction of a Mackenzie Valley Pipeline is reinforced by studying the Alaska situation.
 - a) The task of detailed design review and approval, issuance of a variety of approval documents and co-ordinated field inspections must be tightly managed for a project with the dimensions of the proposed pipeline. Loose co-ordination of the diverse, existing administrations in several agencies will not work on the scale and intensity envisaged.
 - b) Government must speak with one voice to the pipeline construction company.
 - c) The scheduling of construction activities will require fast reaction by the regulatory authorities with a minimum of red tape.
2. The establishment and operation of a Canadian Regulatory Authority should be more straightforward than in Alaska because of lesser jurisdictional divisions, a better environmental data base, experience with the Mackenzie highway, and the opportunity to profit from the Alaska experience.
3. Co-location of government and pipeline company headquarters staff is important, to optimize communications and facilitate response to problems as they arise.

PLANNING A REGULATORY AUTHORITY

Preparations for a government surveillance and monitoring organization to regulate construction of a Mackenzie Valley Pipeline will require many months, and the chosen system must be in place well before construction commences. On the assumption that a Regulatory Authority is the most desirable approach, the Department of Indian Affairs and Northern Development has assigned an officer of the Policy and Planning ACND Division of the Northern Policy and Program Planning Branch to carry out advance planning.

It is envisaged that the Head of a Regulatory Authority would be vested with administrative responsibility for control of construction activities, working through applicable existing legislation, but that individual Ministers retain ultimate authority for their respective legislation. A delegation of administrative, rather than jurisdictional, responsibility, is intended. The Authority would commence operations after issuance of a Certificate of Public Convenience.

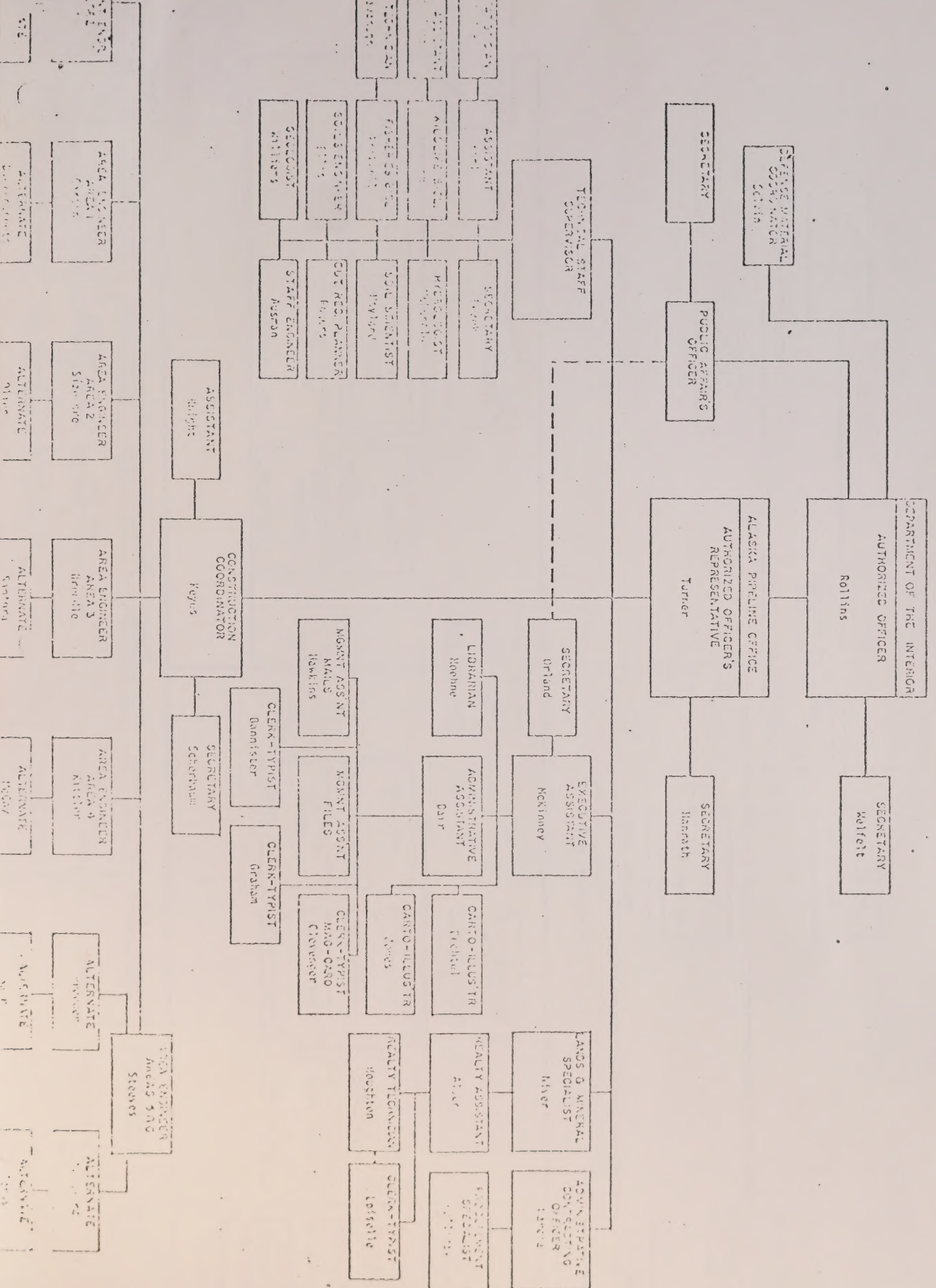
Two other options will also be examined. The first would involve delegation of jurisdictional and administrative responsibility for the many items of legislation applicable to construction of a pipeline. It would remove from each involved department responsibility for implementing its legislation applicable to pipeline construction, by placing this responsibility entirely under the Authority. This approach would require an Act of Parliament.

The second option would simply allow the existing administrative mechanisms to function as they do now, without a central Authority.

Planning for the currently favoured approach outlined above will include a review of legislation applicable to construction activity and its current administration (a partial list is attached as Annex C), an investigation of pipeline company intentions with respect to project management and submission of necessary applications, liaison with appropriate federal, provincial and territorial authorities, assessment of the regulatory workload and design of the organization of the Authority. Because NEB and DOE responsibilities apply in the provinces, it is intended to examine the possibility of extending the proposed Authority's administrative jurisdiction south of the 60th parallel.

ACND approval of the Authority's organization and plan of operations will be sought, leading to an appropriate Order-in-Council for its creation and subsequent staffing and funding.

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